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L12: Entry 15 of 28

File: DWPI

Sep 7, 1999

DERWENT-ACC-NO: 1999-556751
DERWENT-WEEK: 199947
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TITLE: Spiral electrode formation method for non-aqueous electrolyte battery e.g. lithium primary battery, lithium secondary battery - involves wounding separator along with lithium alloy boards so that lithium alloy board having long length is maintained at external periphery

PATENT-ASSIGNEE:

ASSIGNEE

SANYO ELECTRIC CO LTD

CODE

SAOL

PRIORITY-DATA: 1998JP-0043841 (February 25, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 11242961 A	September 7, 1999		008	H01M006/16

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 11242961A	February 25, 1998	1998JP-0043841	

INT-CL (IPC): H01 M 4/04; H01 M 4/12; H01 M 6/16; H01 M 10/04

ABSTRACTED-PUB-NO: JP 11242961A

BASIC-ABSTRACT:

NOVELTY - Lithium alloy boards (21,24) of different lengths are stuck on a separator (20). Manganese dioxide anode (10a) is provided on the separator. The separator along with lithium alloy boards are wound spirally to form the spiral electrode so that the alloy board having long length is kept at external periphery.

USE - For manufacturing spiral electrode used in non- aqueous electrolyte battery e.g. lithium primary battery, lithium secondary battery.

ADVANTAGE - Improves productivity of battery by bonding lithium alloy boards easily. Enables uniform advance of discharge reaction along internal circumference and periphery of spiral electrode. Prevents existence of lithium active material in most external circumference of spiral electrode. Maintains stable electric connection between cathode and its collector even when tab connection gets released. Improves discharge voltage by preventing abrupt reduction of cell voltage. Expands life span of battery.

DESCRIPTION OF DRAWING(S) - The figure shows the sectional drawing of spiral electrode. (10a) Manganese dioxide anode; (20) Separator; (21,24) Lithium alloy boards.

CHOSEN-DRAWING: Dwg.7/11

TITLE-TERMS: SPIRAL ELECTRODE FORMATION METHOD NON AQUEOUS ELECTROLYTIC BATTERY

LITHIUM PRIMARY BATTERY LITHIUM SECONDARY BATTERY WOUND SEPARATE LITHIUM ALLOY BOARD
SO LITHIUM ALLOY BOARD LONG LENGTH MAINTAIN EXTERNAL PERIPHERAL

DERWENT-CLASS: L03 X16

CPI-CODES: L03-E01B5;

EPI-CODES: X16-A02A; X16-B01F1; X16-E03A1; X16-E08A;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1999-162835

Non-CPI Secondary Accession Numbers: N1999-412624

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L15: Entry 4 of 8

File: JPAB

Mar 3, 2000

PUB-NO: JP02000067906A
DOCUMENT-IDENTIFIER: JP 2000067906 A
TITLE: SOLID ELECTROLYTE BATTERY

PUBN-DATE: March 3, 2000

INVENTOR-INFORMATION:

BAD DATE.

NAME

COUNTRY

AKASHI, HIROYUKI

SHIBUYA, MASHIO

SHIBAMOTO, GORO

SEGAWA, TAKESHI

MIYAKI, YUKIO

ASSIGNEE-INFORMATION:

NAME

COUNTRY

SONY CORP

APPL-NO: JP10233202

APPL-DATE: August 19, 1998

INT-CL (IPC): H01 M 10/04; H01 M 6/18; H01 M 10/40

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a solid electrolyte battery by which damage can be suppressed to minimum even when it is crushed by pressure.

SOLUTION: This solid electrolyte battery consists of a winding body 6 of such a structure that a positive electrode 2 formed by lining a strip-shaped positive-electrode current collector 8 with a positive electrode active material on both surfaces and a negative electrode 3 formed by lining a strip-shaped negative-electrode current collector 11 with a negative electrode active material on both surfaces are wound round where a solid electrolyte 4 and separator 5 are interposed, wherein the positive electrode 2 has at one end in the longitudinal direction an exposed portion 8a of current collector 8 on both surfaces while the negative electrode 3 has at one end in the longitudinal direction an exposed portion 11a of current collector 11 on both surfaces, and the two exposed portions 8a and 11a range over one turn on the periphery of the winding body 6 interposed with the separator 5.

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L12: Entry 13 of 28

File: DWPI

Dec 14, 1999

DERWENT-ACC-NO: 2000-102985

DERWENT-WEEK: 200009

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TITLE: Power conducting structure for cylindrical electrical double layer capacitor, lithium ion secondary battery - has collector in anode and cathode in which exposed portions are formed and used as power conducting portion

PATENT-ASSIGNEE:

ASSIGNEE

HITACHI MAXELL KK

CODE

HITM

PRIORITY-DATA: 1998JP-0098476 (March 25, 1998)

PATENT-FAMILY:

PUB-NO

JP 11345747 A

PUB-DATE

December 14, 1999

LANGUAGE

PAGES

MAIN-IPC

010

H01G009/016

BETWEEN PRIORITY DATE AND US. FILING DATE.

APPLICATION-DATA:

PUB-NO

JP 11345747A

APPL-DATE

March 18, 1999

APPL-NO

1999JP-0073830

DESCRIPTOR

INT-CL (IPC): H01 G 9/016; H01 G 9/058; H01 M 4/02; H01 M 4/64; H01 M 10/04; H01 M 10/40

ABSTRACTED-PUB-NO: JP 11345747A

BASIC-ABSTRACT:

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NOVELTY - The anode (1) and the cathode (2) have the collector that has exposed portions. The exposed portions are used for conduction of power from anode and cathode. The active material containing layer is formed on the collectors leaving the exposed portions, on one edge of the collectors. DETAILED DESCRIPTION - The ratio of length of collectors in longitudinal side and short side is set as five or more. The anode and cathode are wound through the separator (3) to form the electrode structure. The electrode structure is accommodated in a container (5) with the electrolyte (4).

USE - For cylindrical electro-chemical apparatus like cylindrical electrical double layer capacitor, lithium ion secondary battery.

ADVANTAGE - Enables formation of collector with low resistance even if electrolyte of organic solvent is used. Prevents variation of characteristic of capacitor or battery even if collector is processed. DESCRIPTION OF DRAWING(S) - The figure shows sectional drawing of electrochemical device. (1) Anode; (2) Cathode; (3) Separator; (4) Electrolyte; (5) Container.

CHOSEN-DRAWING: Dwg.1/2

TITLE-TERMS: POWER CONDUCTING STRUCTURE CYLINDER ELECTRIC DOUBLE LAYER CAPACITOR LITHIUM ION SECONDARY BATTERY COLLECT ANODE CATHODE EXPOSE PORTION FORMING POWER CONDUCTING PORTION

DERWENT-CLASS: V01 X16

EPI-CODES: V01-B01A; V01-B01A7; V01-B01D; X16-B01; X16-B01F; X16-E01; X16-E02;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N2000-079703

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L15: Entry 5 of 8

File: JPAB

Aug 27, 1999

PUB-NO: JP411233149A
DOCUMENT-IDENTIFIER: JP 11233149 A
TITLE: NONAQUEOUS ELECTROLYTE BATTERY

PUBN-DATE: August 27, 1999

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9/30/99

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INVENTOR-INFORMATION: 8/27/99

priority doc.

NAME

COUNTRY

SEGAWA, TAKESHI

FUJITA, SHIGERU

KOJIMA, HIDEAKI

TOMITA, TAKASHI

ASSIGNEE-INFORMATION:

NAME

COUNTRY

SONY CORP

APPL-NO: JP10031820

APPL-DATE: February 13, 1998

INT-CL (IPC): H01 M 10/40; H01 M 10/04

ABSTRACT:

PROBLEM TO BE SOLVED: To restrain damage to the minimum even in the case of crashing of a battery.

SOLUTION: This battery has a wound body 5 wound with a positive electrode where positive active material layers 8 are formed on both faces of a bandlike positive electrode collector 7, and a negative electrode where negative active material layers 11 are formed on both faces of a bandlike negative electrode collector 10, via a separator 4b. The positive electrode has a positive electrode collector-exposed part 9 with the both face-exposed positive electrode collector 7 in one end part of its longitudinal direction, the negative electrode has a negative electrode collector-exposed part 12 with the both face-exposed negative electrode collector 10 in one end part of its longitudinal direction, and the part 9 and the part 12 cover the outer circumference of the wound body 5 to make one round or more via a separator 4a.

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Terms	Documents
(battery or cell) and electrode and electrolyte and collector and (rolled or jellyroll or wound) and (active adj material) and (turn or circumference or exposed)	8

Database:

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US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

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L15

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result set*DB=JPAB; PLUR=YES; OP=OR*

<u>L15</u>	(battery or cell) and electrode and electrolyte and collector and (rolled or jellyroll or wound) and (active adj material) and (turn or circumference or exposed)	8	<u>L15</u>
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<u>L14</u>	(battery or cell) and electrode and electrolyte and collector and (rolled or jellyroll or wound) and (active adj material)	82	<u>L14</u>
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DB=EPAB; PLUR=YES; OP=OR

<u>L13</u>	(battery or cell) and electrode and electrolyte and collector and (rolled or jellyroll or wound) and (active adj material)	7	<u>L13</u>
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DB=DWPI; PLUR=YES; OP=OR

<u>L12</u>	(battery or cell) and electrode and electrolyte and collector and (rolled or jellyroll or wound) and (active adj material)	28	<u>L12</u>
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<u>L11</u>	(battery or cell) and electrode.clm. and electrolyte and collector and (rolled or jellyroll or wound) and (active adj material)	0	<u>L11</u>
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<u>L10</u>	(battery or cell).clm. and electrode.clm. and electrolyte and collector and (rolled or jellyroll or wound) and (active adj material)	0	<u>L10</u>
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DB=USPT; PLUR=YES; OP=OR

<u>L9</u>	battery and Shibamoto.in.	1	<u>L9</u>
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<u>L8</u>	battery.clm. and Shibamoto.in.	0	<u>L8</u>
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<u>L7</u>	(battery or cell).clm. and electrode.clm. and electrolyte and collector.clm. and (rolled or jellyroll or wound).clm. and (active adj material).clm. and (turn or circumference or exposed)	20	<u>L7</u>
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<u>L6</u>	(battery or cell).clm. and electrode.clm. and electrolyte and collector.clm. and (rolled or jellyroll or wound) and (active adj material).clm. and (turn or circumference or exposed)	53	<u>L6</u>
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<u>L5</u>	(battery or cell).clm. and electrode.clm. and electrolyte and collector.clm. and (rolled or jellyroll or wound) and (active adj material).clm. and (turn or circumference)	30	<u>L5</u>
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<u>L4</u>	(battery or cell).clm. and electrode.clm. and electrolyte and collector.clm. and (rolled or jellyroll or wound) and (active adj material).clm.	128	<u>L4</u>
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<u>L3</u>	(battery or cell).clm. and electrode.clm. and electrolyte and collector.clm. and (rolled or jellyroll or wound) and (active adj material)	200	<u>L3</u>
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<u>L2</u>	(battery or cell).clm. and electrode.clm. and electrolyte and collector.clm. and (rolled or jellyroll or wound)	281	<u>L2</u>
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<u>L1</u>	(battery or cell).clm. and electrode.clm. and electrolyte and collector and (rolled or jellyroll or wound)	839	<u>L1</u>
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END OF SEARCH HISTORY

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L12: Entry 23 of 28

File: DWPI

Apr 3, 1996

DERWENT-ACC-NO: 1996-173349
DERWENT-WEEK: 199618
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TITLE: Non aq. sec. cell with a wound configuration - in which the electrode collector sheets are coated on both sides with active material, the coating thickness being smaller on the inner side

INVENTOR: AOTSUKA, Y; FUJIMOTO, H

PATENT-ASSIGNEE:

ASSIGNEE

FUJI PHOTO FILM CO LTD

CODE

FUJF

PRIORITY-DATA: 1994JP-0213897 (September 7, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 704921 A1	April 3, 1996	E	020	H01M010/40
US 5683834 A	November 4, 1997		014	H01M010/38
JP 08130035 A	May 21, 1996		016	H01M010/40

DESIGNATED-STATES: DE FR GB IT

CITED-DOCUMENTS: 5.Jnl.Ref; EP 582173 ; JP02056871 ; JP 3291862 ; JP59180974 ; JP59194363 ; JP61077255

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 704921A1	August 31, 1995	1995EP-0113696	
US 5683834A	August 23, 1995	1995US-0518452	
JP08130035A	September 5, 1995	1995JP-0227735	

INT-CL (IPC): H01 M 4/02; H01 M 4/48; H01 M 4/58; H01 M 10/38; H01 M 10/40

ABSTRACTED-PUB-NO: EP 704921A

BASIC-ABSTRACT:

Non-aq. sec. cell has a non-aq. electrolyte contg. an Li salt and sheet electrodes formed of a collector coated on both sides with active material, the coating thickness on the inner side being less than that on the outer side, pref. 60-97% of that on the outer side. The total coating thickness on both sides is pref. 330-600 micron.

ADVANTAGE - The battery has excellent cycling characteristics and the sheet electrodes have excellent winding properties when rolled up into a cylinder.

ABSTRACTED-PUB-NO:

US 5683834A

EQUIVALENT-ABSTRACTS:

A nonaqueous secondary battery comprising positive and negative sheet electrodes, each composed of a collector coated with an electrode material mixture containing the respective active material and a nonaqueous electrolyte containing a lithium salt, where the electrode material mixture is present on both the inner and the outer sides of the collector and the coating thickness of the electrode material mixture on the inner side of the collector of the positive electrode is smaller than that of the electrode material mixture on the outer side of the collector, and where the negative electrode active material of the battery is capable of intercalating and deintercalating lithium and contains a composition mainly comprising at least one of an amorphous chalcogen compound and an amorphous oxide compound containing at least two elements selected from the groups IIIA, IVA and VA of the periodic table.

CHOSEN-DRAWING: Dwg.0/1 Dwg.1/1

TITLE-TERMS: NON AQUEOUS SEC CELL WOUND CONFIGURATION ELECTRODE COLLECT SHEET COATING
SIDE ACTIVE MATERIAL COATING THICK SMALLER INNER SIDE

DERWENT-CLASS: L03 X16

CPI-CODES: L03-E01B5;

EPI-CODES: X16-B01F1; X16-E01C; X16-E02;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1996-054797

Non-CPI Secondary Accession Numbers: N1996-145600

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L13: Entry 5 of 7

File: EPAB

Apr 3, 1996

PUB-NO: EP000704921A1
DOCUMENT-IDENTIFIER: EP 704921 A1
TITLE: Nonaqueous secondary battery

PUBN-DATE: April 3, 1996

INVENTOR-INFORMATION:

NAME

FUJIMOTO, HIROSHI

AOTSUKA, YASUO

COUNTRY

JP

JP

ASSIGNEE-INFORMATION:

NAME

FUJI PHOTO FILM CO LTD

COUNTRY

JP

APPL-NO: EP95113696

APPL-DATE: August 31, 1995

PRIORITY-DATA: JP21389794A (September 7, 1994)

INT-CL (IPC): H01 M 10/40; H01 M 4/02; H01 M 4/48

EUR-CL (EPC): H01M004/02; H01M004/48, H01M010/40

ABSTRACT:

A nonaqueous secondary battery comprising positive and negative sheet electrodes, each composed of a collector coated with an electrode material mixture containing the respective active material and a nonaqueous electrolyte containing a lithium salt, wherein the electrode material mixture is present on both the inner and the outer sides of the collector and the coating thickness of the electrode material mixture on the inner side of the collector of the positive and/or negative electrode(s) is smaller than that of the electrode material mixture on the outer side of said collector. The battery is excellent in charge and discharge cycle characteristics, and the sheet electrodes have excellent winding properties when rolled up into cylinder.